



## The Combustion Institute

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## Andrés Fuentes Castillo

*2024 Candidate Profile: The Combustion Institute Board of Directors*

### Reasons for Nomination

For over 20 years, I have dedicated myself to advancing research and education in the fields of fundamental combustion, fire science, and experimental diagnostics. My work has contributed to the generation of new knowledge in Chile and South America, and has laid the foundations for the formation of the Chilean section of The Combustion Institute in 2018. Additionally, I have served and supported for the International Symposium on Combustion, acted as an Editor Board Member for the Fire Safety Journal, and organized two versions of the Combustion Institute Summer Schools in the Valparaíso region of Chile.

My commitment is to promote and encourage the development of new generations of scientists and researchers in the field, regardless of regional boundaries, by fostering scientific inquiry and education.

I firmly believe that scientific collaboration is crucial in democratizing science and knowledge. There is still untapped potential to be discovered in underrepresented countries. If elected as a member of the Board, my efforts will focus on discovering new talents, educating the general public, and diversify the international recognition of combustion sciences. Inclusivity of students and researchers from around the world is crucial to embracing diverse perspectives and promoting excellence in combustion science on a global scale.



*See the next page for the candidate's curriculum vitae.*

## Current Positions

- Provost, Universidad Técnica Federico Santa María, Chile.
- Full Professor at Universidad Técnica Federico Santa María, Chile.
- Leader of the "Energy Conversion and Combustion Group" (EC<sup>2</sup>G) at Departamento de Industrias, Universidad Técnica Federico Santa María, Chile.

## Education

- Industrial Engineering, Universidad Técnica Federico Santa María (USM), Chile.
- Master of Science in Thermal Energy and Combustion, Université de Poitiers, France. Under the direction of Prof. Pierre Joulain.
- Ph.D. in Fluid Mechanics, major in Energy and Combustion, Université de Poitiers, France. Under the direction of Prof. Pierre Joulain.

## Selected Professional Honors, Awards, Fellowships, and Visiting Appointments

- Best Paper Award HEFAT 2021, 15th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics.
- Silver Combustion Medal 2018, awarded by The Combustion Institute.
- Selected distinguished paper of International Symposium on Combustion, Korea 2016.
- Chair for the Chilean Combustion Section of The Combustion Institute.
- Board member of funding council called Fondecyt, Chile.
- Bronze medal for CNES and ESA Parabolic Flight Campaigns, France.

## Scientific Records

- Publications: **107** published in peer-reviewed journals.
- Scopus: **h-index: 22**
- Google Scholar: **h-index: 27**

## Selected Publications

- Yon, J., Cruz, J. J., Escudero, F., Moran, J., Liu, F., and **Fuentes, A.** (2021). **Revealing soot maturity based on multi-wavelength absorption/emission measurements in laminar axisymmetric coflow ethylene diffusion flames.** Combustion and Flame, 227, 147-161.
- Liu, F., Yon, J., **Fuentes, A.**, Lobo, P., Smallwood, G. J., and Corbin, J. C. (2020). **Review of recent literature on the light absorption properties of black carbon: Refractive index, mass absorption cross section, and absorption function.** Aerosol Science and Technology, 54(1), 33-51.
- Liu, F., Consalvi, J. L., and **Fuentes, A.** (2014). **Effects of water vapor addition to the air stream on soot formation and flame properties in a laminar coflow ethylene/air diffusion flame.** Combustion and Flame, 161(7), 1724-1734.
- Pironi, P., Switzer, C., Rein, G., **Fuentes, A.**, Gerhard, J. I., and Torero, J. L. (2009). **Small-scale forward smouldering experiments for remediation of coal tar in inert media.** Proceedings of The Combustion Institute, 32(2), 1957-1964.
- **Fuentes, A.**, Legros, G., Claverie, A., Joulain, P., Vantelon, J.P., and Torero, J. L. (2007). **Interactions between soot and CH\* in a laminar boundary layer type diffusion flame in microgravity.** Proceedings of The Combustion Institute, 31(2), 2685-2692.

## Services to the Community

- **Chair** for the Chilean Combustion Section of The Combustion Institute.
- **Editorial Board Member** for the "Fire Safety Journal".
- **Posters Co-Chair** for the "14th International Symposium on Fire Safety Science", Tsukuba, Japan.
- **Organizer** of the "Asia-Pacific Combustion Institute Summer School" in 2019 and 2022.